Training and Evaluation Outline Report

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10 Oct 2014
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Task Number: 05-PLT-5717

Task Title: Perform Power Plant Distribution System Design Technical Assistance

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Destruction Notice: None
Foreign Disclosure: FD1 - This training product has been reviewed by the training developers in coordination with the Fort Leonard Wood, MSCoE foreign disclosure officer. This training product can be used to instruct international military students from all approved countries without restrictions.

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	ATP 5-19 (Change 001 09/08/2014 78 Pages)	RISK MANAGEMENT http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/atp5_19.pdf	Yes	No
	EM 385-1-1	Safety and Health Requirements.	Yes	No
	NESC®	National Electrical Safety Code. 2012 Edition	Yes	No
	NETA™	Maintenance Testing Specifications for Electrical Power Distribution Equipment & Systems. 2007	Yes	No
	NFPA 70	National Electrical Code	Yes	No
	NFPA 70E	Standard for Electrical Safety Requirements for Employee Workplaces. 2004	Yes	No
	TM 3-34.45	ENGINEER PRIME POWER OPERATIONS	Yes	Yes

Conditions: The element is conducting continuous operations in support of either military or civilian agencies, and receives a Fragmentary Order (FRAGORD) or Warning Order (WARNORD) to performorganic or nonorganic power distribution system design technical assistance.Element has all necessary equipment and personnel to accomplish the mission. Liaison operations have been performed. Work site security is provided by the supported element.

Note: The Commander must still determine at what level of training they would want the element to perform. Crawl, walk or run. This can only be determined after consideration as to the units training level.

The Commander prior to evaluating an element in the conduct of the task must determine if it will be conducted in a Live, Virtual, or Constructive environment, additionally it must also be determined which condition as described below that the element will conduct the task. The selection made for this task is at a trained level of proficiency. The commander must determine which of the environments below will best suit the unit and the proficiency level at which the unit is. When conducting crawl or walk level training units should not increase the intensity until the unit has achieved the standards and then unit trainers should include variables that increase proficiency in all conditions.

Note: The condition statement for this task is written assuming the highest training conditions reflected on the Task Proficiency matrix required for the evaluated unit to receive a "fully trained" (T) rating.

Note: Condition terms definitions:

Dynamic Operational Environment: Three or more operational and two or more mission variables change during the execution of the assessed task. Operational variables and threat Tactics, Techniques, and Procedures (TTPs) for assigned counter-tasks change in response to the execution of Blue Forces (BLUFOR) tasks.

Complex Operational Environment: Changes to four or more operational variables impact the chosen friendly COA/mission. Brigade and higher units require all eight operational variables of Political, Military, Economic, Social, Infrastructure, Information, Physical environment, and Time (PMESII-PT) to be replicated in varying degrees based on the task being trained.

Single threat: Regular, irregular, criminal or terrorist forces are present.

Hybrid threat: Diverse and dynamic combination of regular forces, irregular forces, and/or criminal elements all unified to achieve mutually benefiting effects.

This task should not be trained in MOPP 4.

Standards: The element deploys to the assignment site and provides technical assistance for designing the power distribution system requirements within the time allotted in the FRAGORD or WARNORD, assuring continuous energy production for the site.

Note: Leaders are defined as the Commander, Executive Officer, First Sergeant, Operations Sergeant, Platoon Leaders, Platoon Sergeants, Squad Leaders, and Team Leaders.

Live Fire Required: No

Objective Task Evaluation Criteria Matrix:

Plan and Prepare			Execute						Assess
Operational Environment		Training Environment (L/V/C)	% of Leaders Present at Training/Authorized	% of Soldiers Present at	External Eval	% Performance Measures 'GO'	% Critical Performance Measures 'GO'	% Leader Performance Measures 'GO'	Task Assessment
SQD & PLT									
Dynamic (Single Threat)	Night	IAW unit CATS statement.	>=85%	>=80%	Yes	>=91%	All	>=90%	**T**
	Day		75-84%			80-90%		80-89%	**T-**
Static (Single Threat)	Night		65-74%	75-79%	No	65-79%			**P**
	Day		60-64%	60-74%		51-64%	<All	<=79%	**P-**
			<=59%	<=59%		<=50%			**U**

Remarks: None

Notes: All required references and technical manuals will be provided by the local command.

Safety Risk: Low

Task Statements

Cue: None

DANGER

Leaders have an inherent responsibility to conduct Risk Management to ensure the safety of all Soldiers and promote mission accomplishment.

WARNING

Risk management is the Army's primary decision-making process to identify hazards, reduce risk, and prevent both accidental and tactical loss. All Soldiers have the responsibility to learn and understand the risks associated with this task

CAUTION

Identifying hazards and controlling risks across the full spectrum of Army functions, operations and activities is the responsibility of all Soldiers.

Performance Steps and Measures

NOTE: Assess task proficiency using the task evaluation criteria matrix.

NOTE: Asterisks (*) indicate leader steps; plus signs (+) indicate critical steps.

STEP/MEASURE	GO	NO-GO	N/A
+* 1. The element leader conducts Troop Leading Procedures (TLP).			
+ 2. The element deploys to the assignment site.			
+ 3. The element verifies the specifications of the assignment. Verifies the—			
+ a. Requester's identification (name, location, and contact information).			
+ b. Potential hostile threat in the area.			
+ c. Nature of the technical assistance requested, to include:			
(1) Special conditions that may affect the support (potential hazards, unusual voltage, current or frequency requirements, special grounding or protection requirements).			
(2) Special considerations that may affect the level of reliability such as altitude and climate.			
(3) Site layout, to scale if possible, and showing linear distances between load connections.			
(4) Estimate of load requirements, stating quantities and types of devices and facilities being powered.			
+ 4. The element provides power distribution system design technical assistance.			
+ a. Provides advice and recommendations concerning available power plant(s).			
(1) Recommends locations for power plant(s) based upon load demands of the supported area.			
(2) Recommends shelter necessary to protect against inclement weather and/or hostile fire.			
(3) Recommends areas for power plant(s) that are level, dry, well-ventilated, well-drained, and easily accessible by maintenance crews.			
(4) Recommends any necessary site improvements, such as foundation support or drainage support.			
+ b. Provides advice and recommendation of either a radial primary distribution network or a loop primary distribution network.			
+ c. Recommends distribution cable installation.			
(1) Considers quantities, types, sizes and lengths of standard cables, and rolls of nonstandard cables and wires.			
(2) Recommends overhead, underground, or on the ground cable installation.			
Note:			
+ d. Determines delta or wye distribution system circuit connection configuration based upon requirements and application.			
+ e. Identifies and recommends equipment grounding requirements.			
+ f. Advises on distribution system power Quality Control (QC) and/or substation equipment requirements, including—			
(1) Voltage control, regulation, and transformation equipment.			
(2) Circuit protective equipment.			
(3) Power factor correction equipment.			
+ g. Advises on the types of distribution systems and their application, including—			
(1) Single-phase, two-wire.			
(2) Single-phase, three-wire.			
(3) Three-phase, three-wire.			
(4) Three-phase, four-wire			
+ h. Advises on distribution system load balancing requirements.			
+ i. Advises on distribution system phase rotation requirements.			
+ j. Recommends the specific power generating equipment and configuration.			
+* 5. The element leader prepares an After Action Report (AAR).			
+* 6. The element leader reports assignment completion to the higher Headquarters (HQ) for further action.			

TASK PERFORMANCE / EVALUATION SUMMARY BLOCK							
ITERATION	1	2	3	4	5	M	TOTAL
TOTAL PERFORMANCE MEASURES EVALUATED							
TOTAL PERFORMANCE MEASURES GO							
TRAINING STATUS GO/NO-GO							

ITERATION: **1 2 3 4 5 M**

COMMANDER/LEADER ASSESSMENT: **T** **P** **U**

Mission(s) supported: None

MOPP 4: Never

MOPP 4 Statement: None

NVG: Never

NVG Statement: None

Prerequisite Collective Task(s):

Step Number	Task Number	Title	Proponent	Status
	05-BN-5700	Conduct Prime Power Support Missions	05 - Engineers (Collective)	Approved

Supporting Collective Task(s):

Step Number	Task Number	Title	Proponent	Status
	05-PLT-5711	Perform a Power Plant Operations Survey	05 - Engineers (Collective)	Approved
	05-PLT-5715	Perform Power Plant Design Technical Assistance	05 - Engineers (Collective)	Approved
	05-PLT-5720	Select a Temporary Power Plant Site	05 - Engineers (Collective)	Approved
	05-PLT-5722	Prepare Power Systems Construction Estimates	05 - Engineers (Collective)	Approved
1.	71-CO-5100	Conduct Troop Leading Procedures for Companies	71 - Combined Arms (Collective)	Approved
6.	05-CO-0018	Conduct Report Procedures	05 - Engineers (Collective)	Approved

OPFOR Task(s):

Task Number	Title	Status
71-CO-8502	OPFOR Execute an Ambush	Approved
71-CO-9004	OPFOR Reconnaissance Attack (Company and below)	Approved

Supporting Individual Task(s):

Step Number	Task Number	Title	Proponent	Status
	052-204-1113	Prepare a Manhole for Safe Entry	052 - Engineer (Individual)	Approved
	052-204-1211	Install Distribution System Protection and Equipment (De-energized)	052 - Engineer (Individual)	Approved
	052-204-2207	Conduct a Safety Briefing	052 - Engineer (Individual)	Approved
	052-204-2208	Conduct a Safety Inspection	052 - Engineer (Individual)	Approved
	052-204-2211	Develop a Bill of Materials (BOM) List	052 - Engineer (Individual)	Approved
	052-204-2217	Manage a Power Line Crew	052 - Engineer (Individual)	Approved
	052-204-2301	Perform Switching, Blocking and Tagging Procedures	052 - Engineer (Individual)	Approved
	052-206-2115	Service a Distribution Transformer	052 - Engineer (Individual)	Approved
	052-206-3101	Produce an Electrical Schematic	052 - Engineer (Individual)	Approved
	052-207-2126	Produce an Electronic Schematic	052 - Engineer (Individual)	Approved
	052-210-1102	Develop a Power Plant Safety SOP	052 - Engineer (Individual)	Approved
	052-210-1106	Perform Quality Assurance (QA) Quality Control (QC)	052 - Engineer (Individual)	Approved
	052-210-1117	Design a Temporary Medium Voltage Distribution System	052 - Engineer (Individual)	Approved
	052-210-1132	Manage Power Plant Distribution System Design Technical Assistance	052 - Engineer (Individual)	Approved
	052-210-1138	Manage the Installation of Expedient, Surface-Laid, Electrical-Power Distribution Equipment	052 - Engineer (Individual)	Approved
	052-210-1144	Manage Disaster Relief Operations	052 - Engineer (Individual)	Approved
	052-210-1218	Manage Soil Sample Representative Procedures	052 - Engineer (Individual)	Approved
	052-210-7102	Direct Power Plant Distribution System Design	052 - Engineer (Individual)	Approved
	052-236-1202	Interpret Construction Drawings and Prints	052 - Engineer (Individual)	Approved
	052-239-3030	Read Construction Prints	052 - Engineer (Individual)	Approved
	052-244-2144	Read a Schematic	052 - Engineer (Individual)	Approved
	052-244-3113	Supervise the Maintenance of Distribution Equipment	052 - Engineer (Individual)	Approved
	052-244-3114	Supervise an Automatic Transfer Switch (ATS) Service	052 - Engineer (Individual)	Approved
	052-244-4209	Perform Quality Assurance (QA) and/or Quality Control (QC) Duties	052 - Engineer (Individual)	Approved
	052-244-4210	Supervise a Power Plant Installation	052 - Engineer (Individual)	Approved
	052-244-4211	Conduct Contract Officer's Technical Representative (COTR) Operations	052 - Engineer (Individual)	Approved

Supporting Drill(s): None

Supported AUTL/UJTL Task(s):

Task ID	Title
ART 4.1.7.4	Supply Mobile Electric Power

TADSS

TADSS ID	Title	Product Type	Quantity
No TADSS specified			

Equipment (LIN)

LIN	Nomenclature	Qty
No equipment specified		

Materiel Items (NSN)

NSN	LIN	Title	Qty
No materiel items specified			

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to the current Environmental Considerations manual and the current GTA Environmental-related Risk Assessment card. .

Safety: In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination. .